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Use equation $5x - 2y = 10$ to find the missing coordinates for each point.

(a) $(6, a)$
 x, y

$$5x - 2y = 10$$

$$5(6) - 2y = 10$$

$$30 - 2y = 10$$

$$\frac{-2y}{-2} = \frac{-20}{-2}$$

$$y = 10$$

(b) $(-4, b)$

$$5(-4) - 2y = 10$$

$$\begin{array}{r} -20 - 2y = 10 \\ +20 \quad +20 \end{array}$$

$$-2y = 30$$

$$y = -15$$

(c) $(c, 25)$
 x, y

$$5x - 2 \cdot 25 = 10$$

$$\begin{array}{r} 5x - 50 = 10 \\ +50 \quad +50 \end{array}$$

$$\frac{5x}{5} = \frac{60}{5}$$

$$x = 12$$

(d) $(d, -5)$
 x, y

$$5x - 2 \cdot -5 = 10$$

$$\begin{array}{r} 5x - 10 = 10 \\ +10 \quad +10 \end{array}$$

$$5x = 20$$

$$x = 4$$

Elimination

$$\textcircled{1} \quad \begin{array}{r} 5 \cdot y = 2x + 3 \\ \hline 5y = 10x + 15 \end{array}$$

$$\begin{array}{r} 5y = 10x + 15 \\ \hline 5y = 10x + 15 \end{array}$$

$$y = 2x + 3$$

$$\frac{1}{2} \cdot \frac{2}{2} = \frac{2}{4} = \frac{3}{6} = \frac{5}{10}$$

$$\textcircled{2} \quad \begin{array}{r} y = 2x + 3 \\ + \quad y = 4x - 7 \\ \hline \end{array}$$

$$2y = 6x - 4$$

$$y = 3x - 2$$

Example

$$\begin{array}{r} 3x + 2y = 12 \\ + \quad 4x - 2y = 2 \\ \hline \end{array}$$

$$\frac{7x}{7} = \frac{14}{7}$$

$$x = 2$$

$$3x + 2y = 9$$

$$(-2) \begin{array}{r} 4x + y = 7 \\ (-2) \end{array}$$

$$3x + 2y = 9$$

$$\begin{array}{r} -8x - 2y = -14 \\ \hline \end{array}$$

$$-5x = -5$$

$$x = 1$$

Solve the system

$$\begin{array}{r} \textcircled{1} \quad -2x + y = 2 \\ + \quad 2x + 2y = 10 \\ \hline \end{array}$$

$$\begin{array}{r} 3y = 12 \\ \hline 3 \quad 3 \\ \hline y = 4 \end{array}$$

plug back in

$$2x + 2(4) = 10$$

$$\boxed{x = 1}$$

$$\begin{array}{r} \textcircled{2} \quad 4x - 4y = -16 \\ 5x + 4y = -2 \\ \hline \end{array}$$

$$\frac{9x}{9} = \frac{-18}{9}$$

$$\boxed{x = -2}$$

plug back in

$$5(-2) + 4y = -2$$

$$-10 + 4y = -2$$

$$\begin{array}{r} 4y = 8 \\ \hline y = 2 \end{array}$$